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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,282	11/19/2003	Binglong Zhang	884.993US2	1070

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EXAMINER

YANCHUS III, PAUL B

ART UNIT	PAPER NUMBER
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2116

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/718,282	Applicant(s) ZHANG, BINGLONG	
	Examiner Paul B. Yanchus	Art Unit 2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-8, 12-14 and 18-20 is/are allowed.
- 6) ☒ Claim(s) 1-3, 9-11 and 15-17 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This non-final office action is in response to communications filed on 9/26/06.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 9 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Cretti et al., US Patent no. 6,326,827 [Cretti]¹.

Regarding claim 1, Cretti discloses a method comprising:

delaying a first clock signal to produce a delayed clock signal [ADL in Figure 1 and column 4, lines 54-59];

measuring time intervals between phases of the first clock signal [evaluating duty cycle, column 4, lines 35-40]; and

adjusting the delayed clock signal based on the time intervals [column 4, line 60 – column 5, line 17].

Regarding claim 9, Cretti discloses an apparatus comprising:

a delay element, which functions to delay a first clock signal to produce a delayed clock signal [ADL in Figure 1 and column 4, lines 54-59];

a detector, operatively coupled to the delay element, which functions to measure time intervals between phases of the first clock signal based on comparisons between the first clock

¹ Cited in IDS filed on 11/19/03.

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signal and the delayed clock signal [evaluating duty cycle, column 4, line 35 – column 5, line 17]; and

a control element, operatively coupled to the detector, which functions to adjust the delayed clock signal based on the time intervals [CDL in Figure 1 and column 4, line 60 – column 5, line 17].

Regarding claim 15, Cretti discloses a microprocessor comprising:

a delay element, which functions to delay a first clock signal to produce a delayed clock signal [ADL in Figure 1 and column 4, lines 54-59];

a detector, operatively coupled to the delay element, which functions to measure time intervals between phases of the first clock signal based on comparisons between the first clock signal and the delayed clock signal [evaluating duty cycle, column 4, line 35 – column 5, line 17]; and

a control element, operatively coupled to the detector, which functions to adjust the delayed clock signal based on the time intervals [CDL in Figure 1 and column 4, line 60 – column 5, line 17].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 10, 11, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cretti et al., US Patent no. 6,326,827 [Cretti], in view of Kono et al., US Patent no. 6,489,819 [Kono].

Cretti, as described above, discloses a method and apparatus for delaying a clock signal and controlling the delay based on monitoring the duty cycle of the clock signal. Cretti does not disclose generating the first clock signal from an input clock signal, wherein the first clock signal includes first pulses, which correspond to leading edges of the input clock signal, and second pulses, which correspond to falling edges of the input clock signal. Kono discloses generating a first clock signal from an input clock signal, wherein the first clock signal includes first pulses, which correspond to leading edges of the input clock signal, and second pulses, which correspond to falling edges of the input clock signal [column 31, lines 34-37]. It would have been obvious to one of ordinary skill in the art to use the Kono clock generator to generate the clock signal in the Cretti method and apparatus in order to produce a clock signal with a frequency which is double the frequency of an input clock signal.

Allowable Subject Matter

Claims 6-8, 12-14 and 18-20 are allowed.

Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul B. Yanchus whose telephone number is (571) 272-3678. The examiner can normally be reached on Mon-Thurs 8:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on (571) 272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Paul Yanchus
December 10, 2006


JAMES K. TRUSILLO
PRIMARY EXAMINER
TC 2100